

T. Jeffrey Cole

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Education

- ▣ **Ph.D. in Biological Sciences** expected May 2021
East Carolina University, Greenville NC
 - Dissertation title: *Molecular evolution of venom proteins in Ctenidae spiders*
- ▣ **B.S. in Biology, magna cum laude** May 2016
Samford University, Birmingham AL
 - **GPA:** 3.88
 - **Honors**
 - ◇ Beta Beta Beta National Biology Honors Society (2013-2015)
 - Vice President(2015)
 - ◇ Alpha Lambda Delta Honors Society (2013-2015)

Publications

Cole TJ, Brewer MS. (in prep). toxify: a deep learning approach for classifying animal venom proteins.

Cole TJ, Brewer MS. (2018) FUSTr: A tool for finding gene Families Under Selection in Transcriptome databases. *PeerJ*, 6, e4234.

Cole TJ, Hataway RA. (2016). Prescribed burning affects a measure of fitness in *Ctenus hibernalis* (Araneae: Ctenidae) at Oak Mountain State Park, Shelby County, Alabama. *Southeastern Naturalist*. 15(4):646–652.

Presentations

- ▣ **Comparative venom gland transcriptomics of the U.S Ctenidae (Order:Araneae)** 2018
Oral presentation
 - 42nd annual meeting of the American Arachnological society, Ypsilanti MI.
- ▣ **Using deep learning to classify animal venom proteins** 2018
Oral presentation
 - 79th annual meeting of the Association for Southeastern Biologists conference, Myrtle Beach, SC.
- ▣ **Signatures of positive selection in venom proteins of Hawaiian Tetragnatha (Araneae:Tetragnathidae)** 2017
Poster presentation

- 35th annual Society for Molecular Biology and Evolution, Austin, TX
- ☐ **Characterization of the venom proteome for the wandering spider *Ctenus hibernalis* (Araneae: Ctenidae)** 2016
 - Oral presentation*
 - Venom Week V, Greenville NC
 - Poster presentation*
 - 93rd annual Meeting of the Alabama Academy of Science, Florence AL
 - ◊ Winner of Best Poster in Biological Sciences Award
 - 77th annual meeting of the Association for Southeastern Biologists conference, Concord NC
 - 20th annual meeting of the International Congress of Arachnology, Golden CO
- ☐ **Molecular evolution of sperm proteins in *Danaus* butterflies** 2015
 - Oral presentation*
 - Samford University Summer Research Symposium
 - Poster presentation*
 - University of Kansas Summer Undergraduate Research Poster Session
 - 5th annual Emerging Researchers National STEM Conference, Washington D.C.
- ☐ **Density and fitness of *Ctenus hibernalis* (Aranea: Ctenidae) in a montane longleaf pine ecosystem undergoing restoration** 2015
 - Oral presentation*
 - Samford University Summer Research Symposium
 - Poster presentation*
 - 92nd annual Meeting of the Alabama Academy of Science, Livingston, AL
 - 4th annual Emerging Researchers National STEM Conference, Washington D.C.
- ☐ **Effects of surface runoff from a landfill containing coal ash on water chemistry in adjacent surface water in Perry County, Alabama** 2014
 - Oral presentation*
 - Perry County City Hall meeting
 - Samford University Summer Research Symposium
 - Poster presentation*
 - 75th annual Association for Southeastern Biologists conference, Spartanburg SC
 - ◊ Winner of Elsie Quarterman-Catherine Keever Poster Award

Society Memberships

Society for Molecular Biology and Evolution	2017-present
American Arachnological Society	2016-present
North American Society of Toxinology	2015-present
American Chemical Society	2015-present
Association for Southeastern Biologists	2015-present

Alabama Academy of Science 2013-2016

Awards & Grants

American Museum of Natural History Theodore Roosevelt Memorial Grant (\$1,000) 2017
East Carolina University biodiversity initiative internal grant for outreach (\$200) 2017
NSF Graduate Research Fellowship (\$132,000) 2016
Brakefield Textbook scholarship (\$100) 2016
NSF REU Summer research grant, University of Kansas (\$5,500) 2015
NSF REU Summer research grant, Samford University (\$5,500) 2014
Samford University Summer Propst Research scholar (\$2,000) 2013

Service & Outreach

- ☐ **Bugfest** 2016-present
 - Annual public showcase of local arthropod diversity at the Museum of Natural History, Raleigh NC
- ☐ **Undergraduate student mentor** 2016-present
 - research project coordinator for 5 undergraduate research projects
- ☐ **Letters to a Pre-Scientist.** 2016
 - Mentoring network for middle school students in at-risk communities to encourage their pursuit of scientific careers
- ☐ **Spiders of Birmingham, AL** 2015
 - Bi-annual community seminar on how to collect and identify local spiders
- ☐ **Sustainable fisheries practices** 2015
 - Guest lecture at 4H chapter in Birmingham
- ☐ **Shades Creek Cleanup** 2013-2016
 - Co-organizer for annual cleanup efforts in Birmingham AL
- ☐ **Samford gives back** 2013-2016
 - Annual event to provide assistance with establishing community gardens

Skills

- ☐ Programming and Markup Languages
 - **Expert:** Python, Go, Bash, R
 - **Intermediate:** Java, C++, Haskel, HTML, CSS, Javascript, L^AT_EX